



No.	Author N. Budd Veverka, Farmland Game Research Biologist	Date
990	Title 2008 & 2009 Raccoon Road-kill Surveys	02/04/10

Abstract: In 2008, 3,339 road-killed raccoons were observed in Indiana during 755,949 miles of travel observation in March, July and August. In 2009, 3,392 road-killed raccoons were observed in Indiana during 707,370 miles of travel observation. The resulting statewide indices of 44.2 (2008) and 48.0 (2009) road-killed raccoons per 10,000 road miles increased from the previous year (Table 1). The statewide index for adult raccoons (i.e., the breeding portion of the population) first declined in March 2008 and then rebounded in March 2009 to an all time high (42.4 raccoons per 10,000 miles). Ratios of juveniles to adults and juvenile to female adults both increased in 2008, but then declined slightly in 2009. These ratios have exhibited an increasing trend over the previous 10-year period (Figures 3 & 4). Based on the long-term data, after a brief decline and stabilization, the statewide raccoon population appears to again be on the increase to near historic highs (Figure 2).

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Because it has adapted to human Landscapes, the intelligent and opportunistic raccoon (*Procyon lotor*) is most known for its interaction with people. Raccoons are a common source of crop and property damage, and they are host to several diseases that affect both people and animals. They are important players in the wildlife landscape as scavengers and seed dispersers; however, they can also be a negative impact on other wildlife; one example is as a significant nest predator to waterfowl and ground nesting birds. They are managed by hunting, typically with dogs, and trapping. The raccoon is a major component of the North American fur market, which has been in a steep decline since the late 1980s.

Methods

The Indiana Department of Natural Resources had conducted annual raccoon road-kill surveys across the state of Indiana since 1966. Personnel from the Division of Fish and Wildlife and the Division of Law Enforcement recorded

observations of road-killed raccoons during the months of March, July, and August. Data recorded on observation forms includes the observers name, date, number of raccoons observed road-killed, location (county) and total miles driven for the given survey month. Gender was recorded when identification was possible and safety permitted. During July and August, road-killed raccoons were designated as young-of-year (juvenile) or adult based upon body size. Data were tabulated according to the number of road-killed raccoons observed per 10,000 miles traveled. Regional indices were calculated by grouping individual county reports into six fur harvest regions (Figure 1). Juvenile-to-adult road-kill observations during July and August of each year were pooled to determine age ratios. This report summarizes road-kill data collected during 2008 and 2009.

Results

2008 Results

3,339 road-killed raccoons were observed along



755,949 road miles of travel observation during March, July and August 2008, resulting in a statewide cumulative index of 44.17 road-killed raccoons per 10,000 miles traveled (Table 1). The statewide cumulative index increased 14.5% and all regional indices increased between 2007 and 2008, with the exception of the North Central Region (-3.5%; Table 1). The statewide index for adult raccoons (i.e., March breeding population) declined 33.4% between 2007 and 2008 (Table 2). From 2007 to 2008, the ratios of juveniles to adults (114:100) and juveniles to adult females (399:100) increased 23.4% and 18.6%, respectively and have exhibited minimally increasing trends over the previous 10-year period (Figures 3 & 4).

2009 Results

3,392 road-killed raccoons were observed along 707,370 road miles of travel observation during March, July and August 2008, resulting in a statewide cumulative index of 47.95 road-killed raccoons per 10,000 miles traveled (Table 1). The statewide cumulative index increased 8.6% and all regional indices increased between 2008 and 2009, with the exception of the Northwest Region (-12.9%; Table 1). The statewide index for adult raccoons (i.e., March breeding population) increased 65.7% between 2008 and 2009, reaching a record high of 42.38 road-killed raccoons per 10,000 miles traveled (Table 2). From 2008 to 2009, the ratios of juveniles to adults (112:100) and juveniles to adult females (372:100) declined 1.8% and 6.9%, respectively, but have exhibited minimally increasing trends over the previous 10-year period (Figures 3 & 4).

Discussion

The 2008 and 2009 statewide raccoon road-kill indices, though not the highest observed, continue a steady upward trend, likely representing an increasing raccoon population. Regionally, data indicates an increasing trend in the relative abundance of raccoons for all six regions across the state, with record highs in the Southwest (30.51) and South Central (49.94) regions in 2009. Due to the collapse of the fur market in the late 1980s and the cultural decline in hunting and trapping, the raccoon population in Indiana has experienced significant growth over the past two decades. Outside of roadway hazards, mortality rates are low, and with

abundant food available to these opportunists, there is little ecological pressure on the raccoon population. Age and sex ratios show the population has continued to breed normally and produce a stable number of young. The population continues to grow, however, because the post-harvest breeding population increases on a near annual basis, reaching new heights every couple years. Declines can occur with mast and crop failures and when concurrent with outbreaks of disease such as canine distemper.

Literature Cited

Plowman, B. W. 2007. Furbearer Production, Harvest and Population Dynamics. Annual Progress Reports – Statewide Wildlife Research (2007-2008; Segment 39) Indiana Division of Fish and Wildlife, Indianapolis, Indiana, USA.

Figure 1. Indiana Fur Harvest Regions.

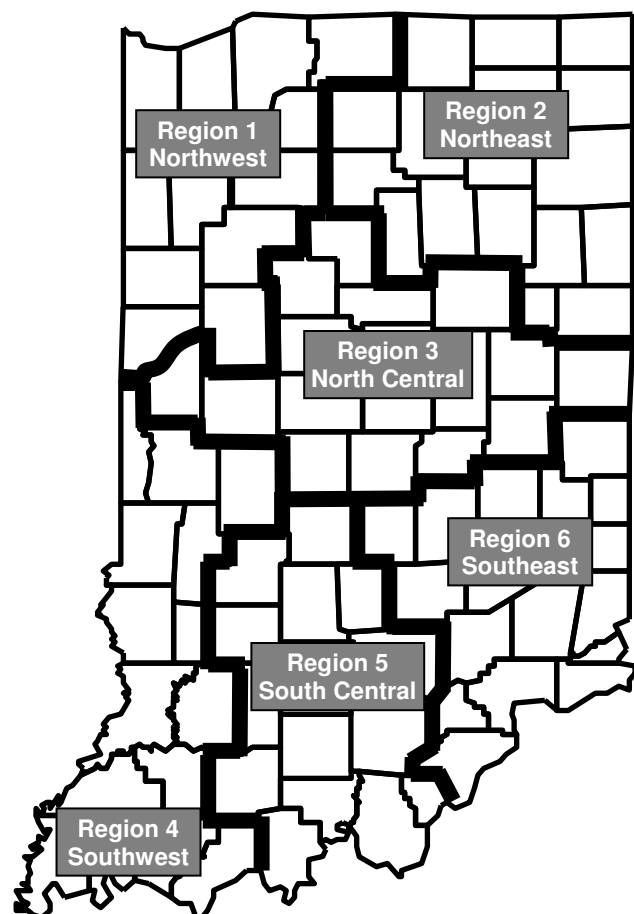


Table 1. Regional and statewide indices (No. of raccoons per 10,000 miles traveled) for the combined raccoon road kill survey (March, July, and August) and the percent of change between years for 2007, 2008, and 2009.

Fur Harvest Region	2007	% Change	2008	% Change	2009
Northwest	44.88	+37.7	61.80	-12.9	53.80
Northeast	41.72	+2.1	42.59	+19.3	50.79
North Central	58.14	-3.5	56.08	+7.8	60.44
Southwest	21.26	+36.2	28.95	+5.4	30.51
South Central	30.59	+33.7	40.91	+22.1	49.94
Southeast	36.03	+0.8	36.33	+16.5	42.33
Statewide	38.59	+14.5	44.17	+8.6	47.95

Table 2. Statewide indices (No. of raccoons per 10,000 miles traveled) for the March, July, and August raccoon road kill surveys and the percent of change between years for 2007, 2008, and 2009.

Survey Period	2007	% Change	2008	% Change	2009
March	38.39	-33.4	25.58	+65.7	42.38
July	45.09	+30.1	58.65	+4.0	61.02
August	32.19	+49.8	48.21	-16.0	40.51

Figure 2. Number of road-killed raccoons observed per 10,000 miles traveled in Indiana from 1966 to 2009.

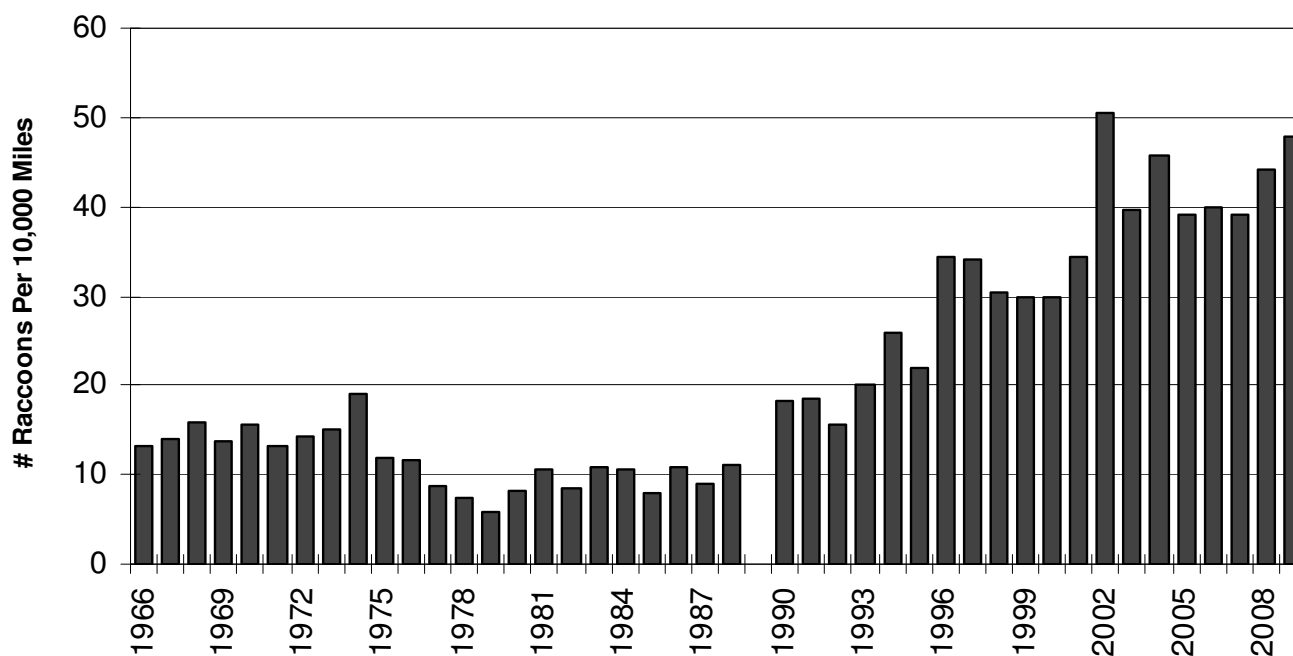


Figure 3. The ratio of Juveniles to 100 adult road-killed raccoons observed during normal operational driving in March, July, and August in Indiana over the previous 10-year period (2000-2009).

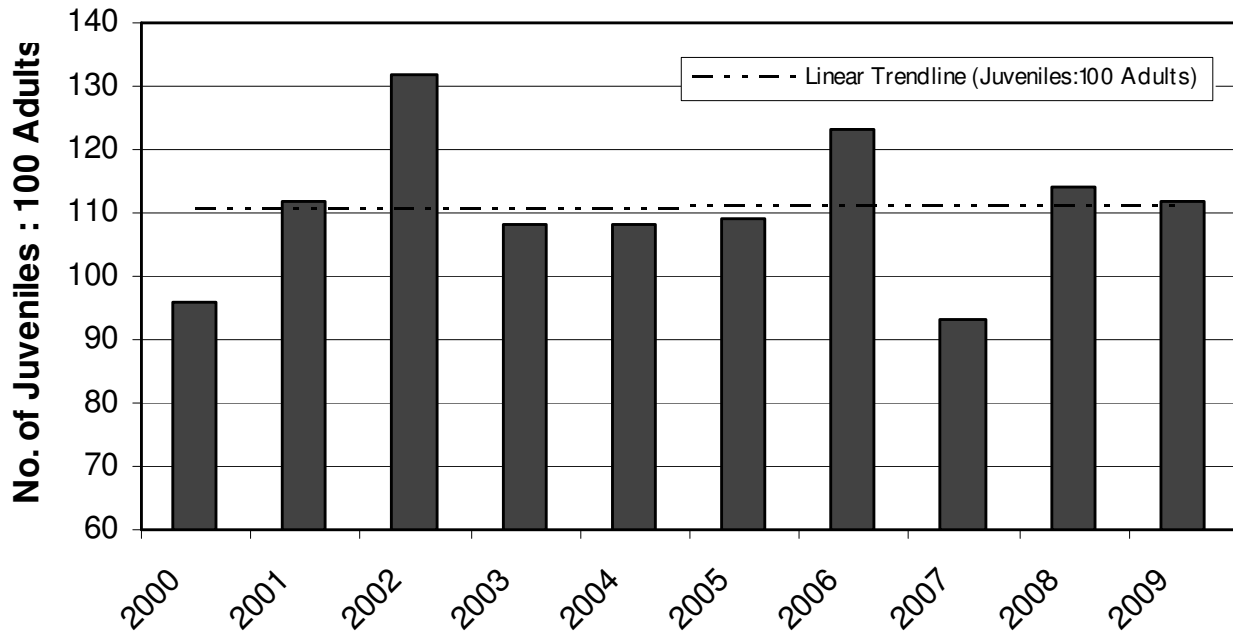


Figure 4. The ratio of Juveniles to 100 adult female road-killed raccoons observed during normal operational driving in March, July, and August in Indiana over the previous 10-year period (2000-2009).

